

# **MAG REGIONAL FREEWAY BOTTLENECK STUDY**

## **Task 2**

### **PREVIOUS STUDIES WORKING PAPER APPENDIX**

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**The Maricopa Association of Governments**

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## **PREVIOUS STUDIES WORKING PAPER APPENDIX**

The purpose of this appendix is to provide an inventory of all relevant existing data pertaining to the regional freeway system. This document and its accompanying maps provide a summary of all relevant projects that pertain to the mainline freeways and studies being undertaken within the study area by MAG member agencies.

These projects and studies are grouped, so far as possible, by freeway. For example, all projects pertaining specifically to SR-51 are grouped under the heading ***SR-51 Projects/Studies***. Some of the studies outlined here include multiple freeways; these projects are grouped under the last heading, ***Projects/Studies Involving Multiple Freeways***.

### ***I-10 Projects/Studies***

- 1. Project Name:** I-10 and Maricopa Road TI  
**Date:** December 2000  
**Agency:** FHWA/ADOT  
**Purpose:** To improve existing and future operational conflicts associated with current and projected traffic volumes on Maricopa Rd. and I-10  
**Recommendations:**  
Reconstruction of the I-10/Maricopa Rd. TI with a diamond configuration  
**Benefit:** Efficient and effective accommodation of traffic volume caused by planned developments in surrounding communities.  
**Cost:** \$13,026,000  
**Funding Source:** RARF/15% from MAG FY2001-2005 Transportation Improvement Plan  
**Implementation:** Begin construction in 2004; included in ADOT's 5 Year Program
- 2. Project Name:** Phoenix/Tucson Corridor Profile Analysis Study  
**Date:** July 1999  
**Agency:** ADOT/SAIC with Lima and Associates and Gannett Flemming, Inc.  
**Purpose:**

  - To identify and define the issues within the corridor regarding performance criteria, land development opportunities, environmental concerns, and statewide strategic investment opportunities
  - To progress toward the strategic goal of enhancing the mobility of people, goods and services
  - To establish priorities for identified transportation system needs allowing the state to provide effective allocation of scarce resources

### Recommendations:

The Phoenix/Tucson Corridor Profile Analysis Study concludes with near-term, mid-term, and long-term recommendations and are described in the following tables.

| <b>Project Description-Near Term</b>   | <b>Estimated Cost</b> | <b>Programmed/Planned</b> | <b>Jurisdiction Impacted*</b> |
|--|-----------------------|---------------------------|-------------------------------|
| Reconstruct Guadalupe Rd. Underpass  | \$1,910,000           | Complete                  | P and M                       |
| Reconstruct Chandler Blvd. TI  | \$12,600,000          | Y                         | P and M                       |
| Construct Santan/South Mountain TI and widen I-10 to 6 lanes plus 2 HOV lanes and reconstruct Maricopa Rd. TI  | \$129,709,000         | Y                         | P and M                       |
| Washington TI-provide vertical clearance sign in WB direction  | \$300                 |                           | P and M                       |
| 24th St. TI-Improve outside radius for EB on-ramp by adding pavement   | \$1,006               |                           | P and M                       |
| University TI-add right turn lane at WB University onto I-10 WB on-ramp  | \$20,644              |                           | P and M                       |
| 40th St. TI-increase sign head clearance at each ramp by attaching higher mast arm   | \$600                 |                           | P and M                       |
| 48 <sup>th</sup> St. TI-modify signalization   | \$26,650              |                           | P and M                       |
| Elliot Rd. TI-relocate barrier on WB on-ramp and improve inside radius for left turning movement   | \$2,607               |                           | P and M                       |
| Ray Rd. TI-change striping on EB crossroad to lane drop striping   | \$1,000               |                           | P and M                       |
| Maricopa Rd. TI - 1) Build-up shoulder on EB crossroad (west on EB on-ramp) and improve outside turning radius at EB on-ramp. 2) Improve crossroad by widening and lane striping. 3) Improve outside turning radius. 4) Improve WB on- and off-ramp. 5) Remove all cattle guards. 6) Change sign at SB off-ramp to "Maricopa Road South Only". | \$53,060              |                           | P and M, G                    |
| Riggs Rd. TI - 1) Improve turning radii at all ramps and widen ramps at throats by adding pavement. 2) Retrofit bridge rails (both sides). 3) Create WB and EB left turn lanes.  | \$125,580             |                           | P and M, G                    |
| Complete DCR between Maricopa Rd. and I-8. DCR to include the evaluation of extending HOV lanes south of Maricopa Rd.  | \$1,000,000           | Y                         | P, T and G, M, PL             |

| <b>Project Description-Near Term</b>  | <b>Estimated Cost</b>              | <b>Programmed/Planned</b> | <b>Jurisdiction Impacted*</b> |
|---|------------------------------------|---------------------------|-------------------------------|
| Widen I-10 between Maricopa Rd. and Ina Rd. by adding one mainline lane in each direction to the median | \$223,000,000                      | N                         | P, T and G, M, PL, PA         |
| Re-stripe I-10 WB mainline at I-17 TI   | \$20,000                           | N                         | P and M                       |
| Conduct a traffic operation study for Broadway Rd. TI   | \$20,000                           | N                         | P and M                       |
| Conduct a traffic operation study for I-10 between 7th Ave. and I-17                                    | \$100,000                          | N                         | P and M                       |
| Rehabilitate Pavement for EB I-10 (MP 144-151)  | \$2,800,000                        |                           | P and M                       |
| Rehabilitate Pavement on I-10 (EB MP 155-156)   | \$500,000                          |                           | P and M                       |
| Construct left turn lanes at I-10 on Ray Rd.  | \$250,000                          | N                         | P and M                       |
| Construct two off ramps from I-10 to SR-143   | \$400,000                          | N                         | P and M                       |
| Reconstruct SR-143/I-10 System TI   | \$20,000,000                       | N                         | P and M                       |
| Construct Collector Distributor Roadway (16th St. to Baseline Rd.)                                      | \$262,000,000                      | Y                         | P and M                       |
| Construct HOV direct connections between I-10 and US-60   | \$33,000,000                       | N                         | P and M                       |
| Construct HOV direct connections between I-10 and SR-51   | \$26,000,000                       | N                         | P and M                       |
| Construct FMS between Southern Ave. and Pecos Rd. (MP153-161)   | \$8,600,000                        | Y                         | P and M                       |
| Implement the Valley Metro Short Range Transit Plan   | \$136,000,000-C<br>\$458,000,000-O | Y                         | MAG                           |

| <b>Project Description-Mid Term</b>  | <b>Estimated Cost</b>                  | <b>Programmed/Planned</b> | <b>Jurisdiction Impacted*</b> |
|--|--|---------------------------|-------------------------------|
| Traffic Sign Rehabilitation-27th Ave 202L                                    | \$1,400,000                            | N                         | P and M                       |
| Pavement Preservation-grinding and texturing by 2010-12 (MP144-160)          | \$6,400,000                            |                           | P and M                       |
| Implement MAG Long Range Transportation Plan                                 | \$1,060,000,000-C<br>\$2,950,000,000-O | Y                         | MAG                           |
| Construct a fixed guide way system for the Phoenix metropolitan area by 2006 | \$540,000,000-C<br>\$10,000,000-O      | Y                         | MAG                           |

| <b>Project Description-Long Term</b>   | <b>Estimated Cost</b> | <b>Programmed/Planned</b> | <b>Jurisdiction Impacted*</b> |
|--|-----------------------|---------------------------|-------------------------------|
| Traffic Sign Rehabilitation-202L to Chandler Blvd.                                 | \$3,000,000           | N                         | P and M                       |
| Traffic Sign Rehabilitation-Chandler Blvd. to Tangerine Rd.                        | \$1,700,000           | N                         | P, T and M, G, PL, PA         |
| Construct SR-153 between University Dr. and I-10                                   | \$20,140,000          | Y                         | P and M                       |
| Reconstruct Riggs Rd. TI   | \$4,500,000           | N                         | P and M, G                    |
| Construct Chandler Heights Rd. TI  | \$8,000,000           | N                         | P and M, G                    |
| Pavement Preservation-Mill and replace AC between year 2010 and 2020               | \$42,500,000          | N                         | P, T and M, G, PL, PA         |
| Pavement Preservation-grinding and texturing by 2010 (MP 144-163)                  | \$7,600,000           | N                         | P and M                       |
| Increase bus service in Phoenix metropolitan area at the rate of population growth | Cost already included |                           | MAG                           |
| Complete the express bus station in the Deck Park Tunnel                           | \$20,000,000          |                           | MAG                           |
| Implement roadway improvements identified in MAG Long Range                        | \$8,600,000,000       |                           | MAG                           |
| Develop a new min-intermodal facility in the Phoenix area                          | \$1,250,000           |                           | MAG                           |

\* P-ADOT Phoenix District  
M-Maricopa County  
G-Gila River Indian Community  
PL-Pinal County  
PA-Pima County

**Benefit:** Improvement of mobility and safety and reduction of congestion in the corridor

**Cost:** See above

**Funding Source:** Arizona HURF, Regional Area Road Fund, Local Area Transportation Assistance Fund, and Federal Funds

**Implementation:** See table above

### 3. **Project Name:** (Included in) MAG Transportation Plan Summary and 2000 Update

**Date:** May 2000

**Agency:** MAG

**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.

**Recommendations:**

- Papago Freeway at South Mountain Parkway (Loop 202):
  - Construction of TI between I-10 and Pecos Rd., extension of Pecos Rd. from 19<sup>th</sup> Ave. around South Mountain to Baseline Rd. (Completion 2004 and 2005, respectively)

- ❑ Completion of construction from Baseline Rd. to the Papago Freeway, also including a truck bypass route from south leg of the South Mountain Freeway to Riggs Rd. and continuing eastward to I-10. (Completion after 2007)
- Papago Freeway:
  - Study of additional widening and additional HOV ramps at ½ mile intervals
- Maricopa Freeway:
  - MAG LRTP- addition of collector/distributor roads between 16<sup>th</sup> St. and Baseline Rd.- 1<sup>st</sup> phase - NB lanes between Baseline Rd. and 40<sup>th</sup> St. (Completion by 2007)
  - Cost:** \$264.2 million
- I-10 South:
  - ❑ Study collector/distributor roads on I-10 between Baseline Rd. and 16<sup>th</sup> St. (Design begins in 2003 and Construction begins in 2006)
  - ❑ Widen I-10 between Chandler Blvd. and Riggs Rd. to 6 lanes (Included in LRTP, begins after 2007)
  - ❑ Additional widening subject to further funding
  - Cost:** \$50.8 million
- I-10 South at Santan Freeway (Loop 202):
  - ❑ Completion of Santan Freeway from I-10 to the Superstition Freeway (completion of 1<sup>st</sup> section by the end of 2003; final completion by 2007)

**Benefits:** Improvements to capacity and traffic operations

**Cost:** Specified above where available

**Funding Sources:** Not included in report

**Implementation:** Specified above for some items

## ***I-17 Projects/Studies***

### **1. Project Name:** Phoenix/Flagstaff/Page Corridor Profile

**Date:** December 1998

**Agency:** ADOT/BRW, Inc., Logan Simpson Design, and Mosaic Analytical Planning

**Purpose:** To establish and document the conditions, use, and needs of the Phoenix-Flagstaff-Page corridor by all surface modes of travel

#### **Recommendations:**

- Entire Route: Development and implementation of rural ITS including: roadway weather info system, variable message signs, and closed circuit TV  
**Cost:** \$2,139,000
- MP 215.96 (Deer Valley TI): Partial reconstruction of TI  
**Cost:** \$3 million  
**Construction:** LRTP, begins after 2007
- MP 217.10 (Pinnacle Peak TI):
  - A. Construction of slip ramps on south side of TI (Developer funded???)  
**Cost:** \$700,000
  - B. Reconstruction to accommodate 8-10 lane freeway  
**Cost:** \$6 million  
**Construction:** 2000 and 2001
- MP 218.01 (Happy Valley TI):
  - A. Improvements to ramp intersection  
**Cost:** \$800,000
  - B. Reconstruction to urban standards with ability to accommodate 8-10 lane freeway  
**Cost:** \$6 million  
**Construction:** 2000
- MP 223.99 (Carefree Hwy TI):
  - A. Improvements to minor crossroads and ramps with SR-74 pavement preservation  
**Cost:** \$800,000
  - B. Reconstruction to accommodate 8-10 lane freeway  
**Cost:** \$6 million  
**Construction:** Design TI in 2002, Reconstruction in 2004

- MP 218.01 to MP 223.99:  
(Happy Valley Rd. to Carefree Hwy )

Construction of at least 2 new TIs at Jomax, Lone Mountain and Dove Valley Rds. (LRTP, begin after 2007)  
**Cost:** \$12 million
- MP 214.96 to MP 223.99:  
(Loop 101 to Carefree Hwy)

A. Preparation of Design Concept Report, Loop 101 to Black Canyon City (Completion of Report in 2002, Final design and construction not programmed)  
**Cost:** \$800,000

B. Widening to 6 lanes, extension of frontage roads and convert to one-way operation (Design in 2005-2006)  
**Cost:** \$45,150,000

C. Widening to 8 lanes including HOV lanes (LRTP, begin after 2007)  
**Cost:** \$45,150,000
- MP 223.99 to MP 236.01:  
(Carefree Hwy to Table Mesa Rd)

A. Preparation of Design Concept Report, Loop 101 to Black Canyon City (Completion of Report in 2002, Final design and construction not programmed)  
**Cost:** \$800,000

B. Construct one new TI between Pioneer Rd. and New River (2010 or later)  
**Cost:** \$6 million

C. Widening to 8 lanes, including HOV lanes, Carefree Hwy to New River (LRTP, begins after 2007)  
**Cost:** \$80,300,000

D. Widening to 6 lanes, New River to Table Mesa Rd (2010 or later)  
**Cost:** \$19,950,000
- MP 229.09 (Desert Hills TI):

Reconstruction of TI (Developer Funded)  
**Cost:** \$5 million  
**Construction:** Completed (Anthem TI)
- Desert Hills/New River Area:

Development of mid- to long-range transit Plans linked to potentially ADOT corridor improvements  
**Cost:** \$100,000

**Benefit:** Increased capacity for future forecasts, air pollution reduction and greater accessibility

**Cost:** Shown above



**Funding Source:** HURF, LTAF, FED, County

**Implementation:** If not listed above, the project is not included in ADOT's 5 Year Program

**2. Project Name:** (Included in) MAG Transportation Plan Summary and 2000 Update

**Date:** May 2000

**Agency:** MAG

**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.

**Recommendations:**

- Black Canyon Freeway:
  - ❑ Completed HOV lanes between Thomas Rd. and Dunlap Ave.
  - ❑ Completed HOV lanes between Dunlap Ave. and Loop 101
  - ❑ TIs at McDowell Rd., Grand Ave., Thomas Rd., Indian School Rd., Bethany Home Rd., Northern Ave., and Dunlap Ave (Design for 4 are completed, the rest are coming)
  - ❑ Ultimate Concept: Additions of 9<sup>th</sup> and 10<sup>th</sup> lanes between Thomas Rd. and Thunderbird Rd.(ADOT: I-17 System Design/Operations Study)
  - ❑ For further Study: 9<sup>th</sup> and 10<sup>th</sup> lanes between Thunderbird Rd. and Loop101 with addition of HOV ramps at 1/2 mile locations
- Cost:** \$650.8 million
- I-17 North:
  - ❑ Widening to 8-10 lanes between Agua Fria Freeway and New River (with 2 lanes HOV only) (LRTP, begin after 2007)
  - ❑ Widening I-17 from 4 to 6 lanes between Loop 101 and the Carefree Hwy (Design in 2005-2006)
- Cost:** \$86.6 million

**Benefits:** Improvements to capacity and traffic operations

**Cost:** Specified above where available

**Funding Sources:** Not included in report

**Implementation:** Not specified

**3. Project Name:** Pre-Final Design Concept Report: Daisy Mountain TI (I-17 at Daisy Mountain Dr.)

**Date:** April 2001

**Agency:** DMJM + Harris/ADOT

**Purpose:** Provide access to the developing community east of I-17; alleviate anticipated traffic congestion at the Anthem Way TI

**Recommendations:**

Creation of a tight diamond interchange including:

- New ramps in all quadrants of the interchange
- Bridge structures on the south ramps to span Deadman Wash
- A single Daisy Mountain Dr. drainageway crossing stream No. 7
- Nine traffic lanes, including bicycle lanes, across the Daisy Mountain Dr. bridge structure
- Auxiliary lanes from Pioneer Rd. TI to Daisy Mountain Dr. TI and from Daisy Mountain Dr. TI to Anthem Way TI

**Benefits:**

- A single crossing of Stream No. 7 spanning Deadman Wash
- Minimizing of ROW acquisition
- Reduction of impacts on Utilities

**Cost:** \$17, 451,000

**Funding Source:** Not specified

**Implementation:** Construction begins in 2003

### ***US-60 Projects/Studies***

**1. Project Name:** Loop 202/US60 TI

**Date:** February 2001

**Agency:** ADOT/DMJM

**Purpose:** To serve regional transportation-related needs and to relieve congestion on local arterial streets throughout the City of Mesa and on US-60

**Recommendations:**

- |                  |                 |               |
|------------------|-----------------|---------------|
| ▪ Sossaman Rd.:  | Half diamond TI | \$5.7 million |
|                  | Full diamond TI | \$6.5 million |
| ▪ Ellsworth Rd.: | Half diamond TI | \$7 million   |
|                  | Full diamond TI | \$7.9 million |
| ▪ Broadway Rd.:  | Full diamond TI | \$8.6 million |
| ▪ Baseline Rd.:  | Half diamond TI | \$9 million   |
| ▪ Guadalupe Rd.: | Full diamond TI | \$7.1 million |

**Benefits:** Reduction of congestion from arterial streets and accommodation of future traffic volumes

**Cost:** Shown above after each project

**Funding Source:** Not specified in report

**Implementation:** LRTP, begin after 2007

**2. Project Name:** HOV and General Use lanes Study: US-60: Jct I-10 to Power Rd.

**Date:** April 2000

**Agency:** ADOT/Stanley Consultants, Inc.

**Purpose:** To reduce congestion and air pollution

**Recommendations:**

- Phase 1:
  - Construction of HOV connections from I-10 to Hardy Dr.
  - Construction of HOV, general use, and auxiliary lanes from Hardy Dr. to Val Vista Dr.
- Phase 2:
  - Addition of HOV and 4<sup>th</sup> general use lane from Gilbert/Val Vista Dr. to Power Rd.
  - Addition of auxiliary lanes from Priest Dr. to Gilbert Rd.; from Val Vista Dr. to Higley Rd.

**Benefits:** Increased capacity

**Cost:** \$377 million

**Funding Source:** ADOT/MAG/City of Mesa

**Implementation:** Construction to begin in 2001

**3. Project Name:** (Included in) MAG Transportation Plan Summary and 2000 Update

**Date:** May 2000

**Agency:** MAG

**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.

**Recommendations:**

- Construction of Santan Freeway from I-10 to the Superstition Freeway (section connecting with US-60 to be completed in 2005)
- Superstition Freeway (US-60):
  - Addition of HOV lanes between I-10 and Santan Freeway with additional general-purpose lanes between Price Freeway (Loop 101) and Power Rd. (funds are currently available for HOV connection between US-60 and I-10; funds are also available for completion of HOV lanes between I-10 and Val Vista Dr.)
  - Improve existing TI on Superstition between Mill Ave. and Greenfield Rd.

**Cost:** \$409.5 million

**Benefits:** Improvements to capacity and traffic operations

**Cost:** Specified above where available

**Funding Sources:** Not included in report

**Implementation:** Completion in 2003

## ***SR-51 Projects/Studies***

- 1. Project Name:** HOV Lanes Study: SR51: Jct I-10 to Shea Blvd.  
**Date:** January 2000  
**Agency:** ADOT/Stanley Consultants, Inc.  
**Purpose:** To alleviate traffic congestion in the corridor  
**Recommendations:**

  - Implementation of HOV lanes from I-10 to the North end of the corridor. (I-10 to Shea Blvd.)
  - HOV connections between SR-51 and I-10

**Benefits:** Decreased congestion, enhanced safety and air quality by improvement of traffic operations.  
**Cost:** \$68.5 million  
**Funding Source:** ADOT/MAG  
**Implementation:** Design to begin in 2001; construction to begin in 2003
- 2. Project Name:** (Included in) MAG Transportation Plan Summary and 2000 Update  
**Date:** May 2000  
**Agency:** MAG  
**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.  
**Recommendations:**

  - Squaw Peak Parkway (SR-51):
    - Provision of HOV lanes between Glendale Ave. and Shea Blvd. and beyond (funds are available for HOV lanes between I-10 and Glendale Ave.)

**Cost:** \$98.4 million

**Benefits:** Improvements to capacity and traffic operations  
**Cost:** Specified above where available  
**Funding Sources:** Not included in report  
**Implementation:** Completion in 2007

## ***Loop 101 Projects/Studies***

- 1. Project Name:** (Included in) Grand Ave.: Major Investment Study  
**Date:** September 1999  
**Agency:** ADOT/URS Greiner Woodward Clyde w/ BRW, Logan Simpson Design, Inc., and Partners for Strategic Action, Inc.  
**Purpose:** Elimination of six-legged intersections, improvement of regional mobility and accommodation of projected travel demand in the corridor

**Recommendations:**

- 91<sup>st</sup> Avenue and Loop 101:
    - Provide ramp connections to and from 91<sup>st</sup> Ave. to Loop 101
    - Provide a connection from Loop 101 to downtown Peoria and provide a more direct means for traffic on Grand Ave. to access Loop 101 to the north
- Cost:** \$10.1 million

**Benefit:** See above

**Cost:** See above

**Funding Source:** RARF/15%

**Implementation:** Included in ADOT's 5 Year Program. Design in 2000; construction scheduled to begin in 2002

**2. Project Name:** (Included in) MAG Transportation Plan Summary and 2000 Update

**Date:** May 2000

**Agency:** MAG

**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.

**Recommendations:**

- Agua Fria Freeway:
  - Construction between Glendale Ave. and I-17 (completed)
  - Construction of section between Glendale Ave. and I-10 (completed)
  - Re-addition of I-10 to Buckeye Rd. to Plan
- Pima Freeway:
  - Completion between Red Mountain Freeway and Shea Blvd. (completed)
  - Construction between Shea Blvd. and Pima Rd. at Princess Dr.; also between I-17 and Scottsdale Rd. (Completion 2001)

**Benefits:** Improvements to capacity and traffic operations

**Cost:** Not specified

**Funding Sources:** Not included in report

**Implementation:** Specified above

***SR-143 Projects/Studies***

**1. Project Name:** MAG Transportation Plan Summary and 2000 Update

**Date:** May 2000

**Agency:** MAG

**Purpose:** To incorporate recent planning studies and demographic and economic projections. Also, to ensure consistency with the most recent air quality plans.

**Recommendations:**

Long-term improvements, including an improved connection between the Maricopa Freeway and the Hohokam Expressway

**Benefits:** Improvements to capacity and traffic operations

**Cost:** Not specified

**Funding Sources:** Not included in report

**Implementation:** Not specified

### ***Loop 202 Projects/Studies***

**1. Project Name:** Loop 202 Operations Study

**Date:** November 1996

**Agency:** ADOT

**Purpose:** Evaluates existing operational conditions on nine miles of Loop 202 (Price Road to the I-10/SR 51 interchange). Potential improvements to increase capacity and reduce congestion were identified and evaluated. Recommended near-term improvements were developed.

**Recommendations:**

Short term: Restripe the section of Loop 202 from 44<sup>th</sup> Street to SR 143 to provide three mixed-use lanes and HOV lanes in each direction of travel. Implement ramp metering at each interchange, including freeway-to-freeway metering at the Loop 202/SR 143 interchange.

Long term: Add a WB auxiliary lane from 32<sup>nd</sup> Street to I-10/SR 51. Widen the WB off-ramp from Loop 202 to SR 51 to 2 lanes. Extend a third mixed-use lane in each direction from I-10/SR 51 to I-10.

**Benefits:** Near term improvements are expected to provide sufficient capacity for 10 years.

**Cost:** Near term improvements costs are estimated at \$700,000.

**Funding Sources:** ADOT District Maintenance Funds

**Implementation:** Near term improvements were completed in 1997/1998.

## *Projects/Studies involving multiple freeways*

1. **Project Name:** MAG FY2001-2005 Transportation Improvement Program  
**Date:** July 2000  
**Agency:** MAG  
**Purpose:** To list the projects currently on the implementation agenda  
**Recommendations:**

| Projects Underway in 2000  |   |           |              |
|--|---|-----------|--------------|
| Location   | Type of Work  | Fund Type | Cost         |
| I-10 @ Guadalupe Rd. Underpass                                     | Replace Structure   | NHS       | \$1,910,000  |
| I-10: Baseline Rd. to 16th St.                                     | Collector-Distributor System DCR                                    | State     | \$1,000,000  |
| I-17 @ 19th Ave. TI  | Construct intermediate TI improvement                               | STP-AZ    | \$1,680,000  |
| I-17 @ Happy Valley Rd. TI   | Construct intermediate TI improvement                               | STP-AZ    | \$1,524,000  |
| I-17 @ Pinnacle Peak Rd. TI  | Construct intermediate TI improvement                               | State     | \$1,091,000  |
| I-17: Thomas Rd. to Peoria Ave.                                    | Design-build (additional funds)                                     | IM        | \$14,000,000 |
| 51: Highland TI  | Construct TI  |           | \$100,000    |
| US-60 (Grand Ave.) Morristown Overpass to 203rd Ave.               | Design roadway  | State     | \$1,044,000  |
| US-60 (Superstition Fwy) @Country Club Dr.                         | Construct intermediate TI improvement                               | STP-AZ    | \$800,000    |
| US-60 (Superstition Fwy) @Country Club Dr.                         | Construct intermediate TI improvement (Mesa share)                  | Local     | \$1,300,000  |
| US-60 (Superstition Fwy) @ Mill Ave. TI                            | Construct intermediate TI improvement                               | STP-AZ    | \$409,000    |
| SR-87 @ SR-587 (Hunt Rd.) intersection                             | Reconstruct Intersection  | HES       | \$800,000    |
| Grand Ave.: Thomas Rd./27th Ave. structure & 91st Ave. ramps @ AFF | Design structure  | RARF/ 15% | \$1,900,000  |
| 101L Pima Fwy: Scottsdale Rd. to Pima Rd.                          | Design roadway  | RARF/ 15% | \$1,521,000  |
| 101L Pima Fwy: Pima Rd.: McDowell Rd. to Via Linda                 | Widen roadway from 2 to 4 lanes                                     | RARF/ 15% | \$2,000,000  |
| 101L Price Fwy: Price TI to Guadalupe Rd.                          | Construct FMS   | CMAQ      | \$1,800,000  |
| 202L Red Mountain Fwy: Country Club Dr. to Gilbert Rd.             | Construct roadway   | RARF/ 15% | \$70,704,000 |
| 202L Red Mountain Fwy: Country Club Dr. to Gilbert Rd.             | Design roadway  | RARF/ 15% | \$4,372,000  |
| 202L Santan Fwy: Santan/I-10 TI, phase I, Pecos Rd. Connection     | Construct TI ramps  | GAN       | \$26,220,000 |
| 202L Santan Fwy: Santan/I-10 TI, phase I, Pecos Rd. Connection     | Design TI ramps   | GAN       | \$1,442,000  |
| 202L Santan Fwy: I-10/Maricopa Rd. TI                              | Design roadway  | RARF/ 15% | \$716,000    |
| 202L Santan Fwy: Santan/I-10 TI, phase II, Chandler Blvd. TI       | Design TI   | RARF/ 15% | \$3,520,000  |
| 202L Santan Fwy: 56th St. to Kyrene Rd.                            | Design roadway  | RARF/ 15% | \$1,057,000  |
| Country Club Dr. @ US-60   | Construct dual left turn lanes on structure for NB and SB movements | CMAQ      | \$1,300,000  |

| Projects Underway in 2000  |   |           |               |
|--|---|-----------|---------------|
| Location   | Type of Work  | Fund Type | Cost          |
| 19th Ave.: Pima Fwy to Deer Valley Rd.                                 | Reconstruct to 74' cross section                    | Local     | \$1,500,000   |
| 35th Ave.: Agua Fria Fwy to Deer Valley Rd.                            | Reconstruct to 74' cross section adding 2 new lanes | Local     | \$2,000,000   |
| Camelback Rd.: I-17 to 19th Ave.                                       | Add 1 EB lane                                       | Local     | \$3,000,000   |
| Chandler Blvd.: 44th St. to I-10                                       | Reconstruct to 74' cross section adding 2 new lanes | Local     | \$2,600,000   |
| Thunderbird Rd. @ I-17   | Design dual left turn lanes                         | CMAQ      | \$300,000     |
| 101L Pima Fwy: Thunderbird Rd. (W) and Raintree Dr. (E) to Pima Rd. TI | Construct frontage roads                            | Local     | \$1,000,000   |
| Total:   |   |           | \$152,610,000 |

| Fiscal Year 2001 (ADOT)                     |  |           |               |
|---|--|-----------|---------------|
| Location                                    | Type of Work   | Fund Type | Cost          |
| 10 @ Airport Rd. TI                         | Construct new TI   | Private   | \$9,000,000   |
| 10: Baseline Rd. to 16th St.                | Collector-distributor system DCR and EA  | State     | \$800,000     |
| 10: Southern Ave. to Pecos Rd.              | Construct FMS  | CMAQ      | \$4,600,000   |
| 17 @ Pinnacle Peak Rd. TI                   | Construct intermediate TI improvement  | State     | \$1,500,000   |
| 17 @ Pinnacle Peak Rd. TI                   | Construct intermediate TI improvement  | Private   | \$200,000     |
| 17: 16th St. to Pinnacle Peak Rd.           | Rehabilitate frontage roads  | State     | \$2,902,000   |
| 51 @ I-10 TI                                | Design HOV ramps   | State     | \$1,700,000   |
| 51: McDowell Rd. to Glendale Ave.           | Design HOV lanes   | State     | \$2,250,000   |
| 60 (GA): 203rd Ave. to Deer Valley Rd.      | Construct roadway  | NHS       | \$10,370,000  |
| 60 (GA): Cotton Ln. TI                      | Construct overpass   | State     | \$340,000     |
| 60 (GA): Deer Valley Rd. to Beardsley Rd.   | Construct roadway  | NHS       | \$5,200,000   |
| 60 (GA): Morristown overpass to 203rd Ave.  | Construct roadway  | NHS       | \$20,760,000  |
| 60 (SF) @ Alma School Rd. TI                | Construct intermediate TI improvement  | STP-AZ    | \$1,000,000   |
| 60 (SF) @ Alma School Rd. TI                | Construct intermediate TI improvement (Mesa share)   | Local     | \$1,000,000   |
| 60 (SF) @ Dobson Rd. TI                     | Construct intermediate TI improvement  | STP-AZ    | \$1,812,000   |
| 60 (SF) @ McClintock Dr. TI                 | Construct intermediate TI improvement  | STP-AZ    | \$1,327,000   |
| 60 (SF) @ Rural Rd. TI                      | Construct intermediate TI improvement  | STP-AZ    | \$1,278,000   |
| 60 (SF): I-10 to Val Vista Dr.              | Construct HOV ramps @ I-10; HOV lanes from I-10 to Val Vista Dr; and additional GP lanes from Price Fwy to Val Vista Dr. | NHS       | \$272,962,000 |
| Alma School Rd. @ US60                      | Construct dual left turn lanes on structure for NB and SB movements  | CMAQ      | \$2,000,000   |
| 101 (AFF) @ Union Hills Dr.                 | Design dual left turns EB and NB   | State     | \$15,000      |
| 202 (RMF) @ the Salt River Bridge           | Construct median closure   | State     | \$417,000     |
| 202L (RMF): Country Club Dr. to Gilbert Rd. | Construct roadway, phase II  | RARF/ 15% | \$8,785,000   |
| 202L (RMF): Gilbert Rd. to Higley Rd.       | Construct roadway  | GAN       | \$68,560,000  |



| Fiscal Year 2001 (ADOT)                                |                          |           |                      |
|--|--------------------------|-----------|----------------------|
| Location   | Type of Work             | Fund Type | Cost                 |
| 202L: 24st to 32st                                     | Construct Auxiliary Lane |           | \$1,443,000          |
| 202L (SANF): Kyrene Rd. to McClintock Rd.              | Design roadway           | RARF/ 15% | \$1,668,000          |
| 202L (SANF): Santan/I-10 TI, phase II (Chandler Blvd.) | Construct TI             | RARF/ 15% | \$56,000,000         |
| 202L (SANF): Santan/I-10 TI, phase II (Chandler Blvd.) | Construct TI             | STP-AZ    | \$8,000,000          |
| 51 (SPP): Bell Rd. to Union Hills Rd.                  | Design roadway           | RARF/ 15% | \$1,785,000          |
| <b>Total:</b>  |                          |           | <b>\$487,764,000</b> |

| Fiscal Year 2002 (ADOT)  |   |           |                      |
|--|---|-----------|----------------------|
| Location   | Type of Work                                    | Fund Type | Cost                 |
| 10 @ Bullard Ave. TI   | Construct ramps, crossroads and traffic signals | Private   | \$6,000,000          |
| 10: Southern Ave. to Pecos Rd.   | Construct FMS                                   | NHS       | \$3,000,000          |
| 17 @ Carefree Hwy TI   | Design TI                                       | State     | \$600,000            |
| 17: Peoria and Greenway  | Construct Auxiliary Lanes and Walls             | IM        | \$8,500,000          |
| 17: Thomas to McDowell   | Construct SB Auxiliary Lane                     |           | \$200,000            |
| 60 (GA): Cotton Ln. TI   | Construct overpass                              | State     | \$340,000            |
| 60 (SF) @ Mesa Dr. TI  | Construct intermediate TI improvement           | STP-AZ    | \$1,652,000          |
| Mesa Dr. @ US60  | Construct dual left turn lanes                  | CMAQ      | \$3,200,000          |
| Grand Ave.: Thomas Rd./27th Ave. Structure & 91st Ave. ramps @ Agua Fria Fwy | Construct structure                             | RARF/15%  | \$22,500,000         |
| 101L(AF): 59 <sup>th</sup> to 75 <sup>th</sup> Ave                           | Construct EB Auxiliary Lane                     |           | \$800,000            |
| 101L Pima Fwy: Scottsdale Rd. to Pima Rd.                                    | Construct roadway                               | RARF/15%  | \$13,380,000         |
| 101L Pima Fwy: Pima Rd. extension  | Construct roadway extension                     | RARF/15%  | \$2,696,000          |
| 101L Pima Fwy: Pima Rd. extension  | Design roadway                                  | RARF/15%  | \$220,000            |
| 101L Pima Fwy: Pima Rd.: McDowell Rd. to Via Linda                           | Widen roadway from 2 to 4 lanes                 | RARF/15%  | \$2,000,000          |
| 101(P)ce: University to Broadway   | Construct SB Auxiliary Lane                     |           | \$300,000            |
| 101(P)ce: Southern to Broadway   | Construct NB Auxiliary Lane                     |           | \$300,000            |
| 202L (RMF): Higley Rd. to Power Rd.  | Design roadway                                  | RARF/15%  | \$1,633,000          |
| 202L (RMF): US60 to Baseline Rd.   | Design roadway                                  | RARF/15%  | \$948,000            |
| 202L (SANF): Elliot Rd. to Baseline Rd.                                      | Design roadway                                  | RARF/15%  | \$2,121,000          |
| 202L (SANF): Arizona Ave. to Gilbert Rd.                                     | Design roadway                                  | RARF/15%  | \$3,543,000          |
| 202L (SANF): Dobson Rd. to Arizona Ave.                                      | Design roadway                                  | RARF/15%  | \$2,359,000          |
| 202L (SANF): Price/Santan TI, East half                                      | Construct TI                                    | RARF/15%  | \$30,317,000         |
| 202L (SANF): Price/Santan TI, East and West halves                           | Design roadway                                  | RARF/15%  | \$3,720,000          |
| 202L (SANF): Price/Santan TI, West half                                      | Construct TI                                    | RARF/15%  | \$37,319,000         |
| 202L (SANF): Kyrene Rd. to McClintock Rd.                                    | Construct roadway                               | RARF/15%  | \$30,332,000         |
| 202L (SANF): 56th St. to Kyrene Rd.  | Construct roadway                               | RARF/15%  | \$19,209,000         |
| 51 (SPP): Bell Rd. to Union Hills Dr.  | Construct roadway                               | RARF/15%  | \$30,251,000         |
| 51 (SPP): Union Hills Dr. to Pima Fwy  | Construct roadway                               | SIB       | \$20,059,000         |
| <b>Total:</b>  |   |           | <b>\$247,599,000</b> |

| Fiscal Year 2003 (ADOT)                           |   |           |               |
|---|---|-----------|---------------|
| Location  | Type of Work  | Fund Type | Cost          |
| 10 @ 7th St.                                      | Construct triple left turn lane from WB I-10 onto SB 7th St         | CMAQ      | \$125,000     |
| 10 @ Litchfield Rd. TI                            | Construct intermediate TI improvement                               | STP-AZ    | \$406,000     |
| 10 @ Riggs Rd. TI                                 | Construct intermediate TI improvement                               | STP-AZ    | \$818,000     |
| 10: 40th St. to Baseline Rd.                      | Design CD roads, phase 1A   | State     | \$4,000,000   |
| 10: Maricopa Rd. TI to Riggs Rd.                  | Design roadway  | State     | \$1,200,000   |
| 10: 83 <sup>rd</sup> Ave to 59 <sup>th</sup> Ave  | Construct Auxiliary Lanes   | IM        | \$5,000,000   |
| 10: 83 <sup>rd</sup> Ave to 91 <sup>st</sup> Ave  | Construct WB Auxiliary Lane   |           | \$200,000     |
| 17 @ Daisy Mountain TI                            | Construct new TI  | Private   | \$18,000,000  |
| 51 (SPP): McDowell Rd. to Glendale Ave.           | Construct HOV lanes   | STP-AZ    | \$24,750,000  |
| 60 (SF) @ Gilbert Rd. TI                          | Construct dual left turn lanes on structure for NB and SB movements | Local     | \$1,300,000   |
| 101(AF): 59 <sup>th</sup> to 51 <sup>st</sup> Ave | Construct EB Auxiliary Lane   |           | \$400,000     |
| 101(AF): Bell Rd to Union Hills                   | Construct Auxiliary Lanes   |           | \$400,000     |
| 101(AF): 83 <sup>rd</sup> to 91 <sup>st</sup> Ave | Construct WB Auxiliary Lane   |           | \$200,000     |
| 202L (RMF): Power Rd. to University Dr.           | Design roadway  | RARF/15%  | \$4,652,000   |
| 202L (SANF): Power Rd. to Elliot Rd.              | Design roadway  | RARF/15%  | \$3,713,000   |
| 202L (SANF): Higley Rd. to Power Rd.              | Design roadway  | RARF/15%  | \$1,544,000   |
| 202L (SANF): Gilbert Rd. to Williams Field Rd.    | Design roadway  | RARF/15%  | \$3,830,000   |
| 202L (SANF): Dobson Rd. to Arizona Ave.           | Construct roadway   | RARF/15%  | \$42,898,000  |
| 202L (SANF): I-10/Maricopa Rd. TI                 | Construct roadway (Maricopa Rd phase)                               | RARF/15%  | \$13,026,000  |
| Total:  |   |           | \$126,462,000 |

| Fiscal Year 2004 (ADOT)                 |  |           |              |
|---|--|-----------|--------------|
| Location                                | Type of Work   | Fund Type | Cost         |
| 10 @ Warner Rd. TI                      | Design dual left turn lanes  | State     | \$15,000     |
| 17 @ Cactus Rd.                         | Construct dual left turn lanes from Cactus Rd onto I-17 in both directions | CMAQ      | \$2,300,000  |
| 17 @ Carefree Hwy TI (SR-74)            | Reconstruct TI   | IM        | \$6,000,000  |
| 51 (SPP) @ I-10 TI                      | Construct HOV ramps  | STP-AZ    | \$24,300,000 |
| 60 (GA): I-17 to 101L                   | Construct roadway improvements   | STP-AZ    | \$30,000,000 |
| 60 (SF) @ Gilbert Rd. TI                | Design dual left turn lanes  | State     | \$170,000    |
| 202L (RMF): Higley Rd. to Power Rd.     | Construct roadway  | RARF/15%  | \$29,694,000 |
| 202L (RMF): University Dr. to US60      | Design roadway   | RARF/15%  | \$3,269,000  |
| 202L (RMF): US-60 to Baseline Rd.       | Construct roadway  | RARF/15%  | \$17,232,000 |
| 202L (SANF): Elliot Rd. to Baseline Rd. | Construct roadway  | RARF/15%  | \$38,567,000 |
| 202L (SANF): Power Rd. to Elliot Rd.    | Construct roadway  | RARF/15%  | \$67,508,000 |

|   |                   |          |                      |
|---|-------------------|----------|----------------------|
| 202L (SANF): Williams Field Rd. to Higley Rd. | Design roadway    | RARF/15% | \$2,427,000          |
| 202L (SANF): Arizona Ave. to Gilbert Rd.      | Construct roadway | RARF/15% | \$139,000            |
| <b>Total:</b>                                 |                   |          | <b>\$221,621,000</b> |

| <b>Fiscal Year 2005 (ADOT)</b>                        |   |                  |                      |
|---|---|------------------|----------------------|
| <b>Location</b>                                       | <b>Type of Work</b>   | <b>Fund Type</b> | <b>Cost</b>          |
| 10 @ Warner Rd. TI                                    | Construct dual left turn lanes                                  | State            | \$150,000            |
| 10: 40th St. to Baseline Rd.                          | Construct CD roads-phase 1A                                     | State            | \$40,000,000         |
| 60 (SF) @ Gilbert Rd. TI                              | Construct dual left turn lanes                                  | State            | \$1,700,000          |
| 60 (SF) @ Stapley Dr.                                 | Widen structure to construct left turn lanes in both directions | CMAQ             | \$4,000,000          |
| 101L (AFF) @ Union Hills Dr.                          | Construct dual left turn EB to NB                               | State            | \$150,000            |
| 202L (RMF): Power Rd. to University Dr.               | Construct roadway   | RARF/15%         | \$84,584,000         |
| 202L (SANF): Higley Rd. to Power Rd.                  | Construct roadway   | RARF/15%         | \$28,077,000         |
| 202L (SANF): Williams Field Rd. to Higley Rd.         | Construct roadway   | RARF/15%         | \$44,122,000         |
| 202L (SANF): Gilbert Rd. to Williams Field Rd.        | Construct roadway   | RARF/15%         | \$69,644,000         |
| 153 Sky Harbor Expwy: University Dr. to Superior Ave. | Design roadway  | RARF/15%         | \$1,228,000          |
| <b>Total:</b>   |   |                  | <b>\$273,655,000</b> |

**Benefit:** To improve mobility and access to the metropolitan Phoenix area

**Cost:** See above

**Funding Source:** MAG, ADOT (See above)

**Implementation:** See above

### 3. **Project Name:** TI Improvement Prioritization Process

**Date:** January 1997

**Agency:** ADOT/JHK and Associates

**Purpose:** To establish a systematic interchange improvement plan

**Recommendations:**

- 19 complete reconstructions
- 19 intermediate improvements at 17 interchanges
- 183 minor improvement projects at 49 regional freeway TIs

| <b>Complete Reconstruction Prioritization</b> |                |           |                 |              |
|---|----------------|-----------|-----------------|--------------|
| <b>Interchange</b>                            | <b>Highway</b> | <b>MP</b> | <b>District</b> | <b>Cost</b>  |
| 48th St.                                      | I-10           | 153.1     | E               | \$20,000,000 |
| Chandler Blvd.                                | I-10           | 160.89    | E               | \$10,000,000 |
| Riggs Rd.                                     | I-10           | 167.47    | E               | \$4,500,000  |

|                  |       |        |   |              |
|------------------|-------|--------|---|--------------|
| Thunderbird Rd.  | I-17  | 210.92 | E | \$6,500,000  |
| Happy Valley Rd. | I-17  | 218.01 | E | \$6,500,000  |
| Mill Ave.        | US-60 | 173.65 | E | \$6,500,000  |
| Country Club Dr. | US-60 | 179.4  | E | \$3,600,000  |
| Alma School Rd.  | US-60 | 178.41 | E | \$8,000,000  |
| Dobson Rd.       | US-60 | 177.41 | E | \$8,000,000  |
| Mesa Dr.         | US-60 | 180.4  | E | \$8,000,000  |
| Total:           |       |        |   | \$81,600,000 |

| Intermediate Improvement Prioritization |         |        |   |          |             |
|---|---------|--------|---|----------|-------------|
| Interchange (When)                      | Highway | MP     | Improvement                                 | District | Cost        |
| 19th Ave. (2000)                        | I-17    | 197.94 | Move one ramp                               | E        | \$304,564   |
| Happy Valley Rd. (2000)                 | I-17    | 218.01 | Move ramps                                  | E        | \$397,532   |
| Pinnacle Peak Rd. (2000)                | I-17    | 217.1  | Move ramps (2)                              | E        | \$907,660   |
| Pinnacle Peak Rd. (2001)                | I-17    | 217.1  | Widen bridge and add left turn lane (1)     | E        | \$1,843,140 |
| McClintock Dr. (2001)                   | US-60   | 175.41 | Add one left turn lane in one direction (1) | E        | \$227,825   |
| Country Club Dr. (2001)                 | US-60   | 179.4  | Add one left turn lane in one direction     | E        | \$448,825   |
| Rural Rd. (2001)                        | US-60   | 174.41 | Add one left turn lane in one direction     | E        | \$507,650   |
| Dobson Rd. (2001)                       | US-60   | 177.41 | Add one left turn lane in one direction     | E        | \$464,100   |
| Alma School Rd. (2001)                  | US-60   | 178.41 | Add one left turn lane in one direction     | E        | \$796,025   |
| Mesa Dr. (2001)                         | US-60   | 180.4  | Add one left turn lane in one direction     | E        | \$448,825   |
| McClintock Dr. (2001)                   | US-60   | 175.41 | Add one left turn lane in one direction (2) | E        | \$1,131,650 |
| Total Max:                              |         |        |   |          | \$5,406,831 |
| Total Min:                              |         |        |   |          | \$4,503,006 |

**Benefit:** Improvements in capacity and safety

**Cost:** \$94.6 million

**Funding Source:** Not included in the report

**Implementation:** Not specified in the report